

Unit 8 Day 1

p 118 : 1, 2, 5-16 (all)

p 136 : 7-10 (all)

p 118

$\textcircled{1} \text{D } (3x+1)(x-7)=0$ $\begin{array}{l l} 3x+1=0 & x-7=0 \\ 3x=-1 & x=7 \\ x=-\frac{1}{3} & \end{array}$	$\textcircled{2} (2x+5)^2=7$ $2x+5=\pm\sqrt{7}$ $2x=-5\pm\sqrt{7}$ $x=\frac{-5\pm\sqrt{7}}{2}$	$\textcircled{5} p^2=16$ $p=\pm\sqrt{16}$ $p=\pm 4$
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$\textcircled{6} k^2=25$ $k=\pm\sqrt{25}$ $k=\pm 5$	$\textcircled{7} x^2=27$ $x=\pm\sqrt{27}$ $x=\pm 3\sqrt{3}$	$\textcircled{8} r^2=48$ $r=\pm\sqrt{48}$ $r=\pm 4\sqrt{3}$	$\textcircled{9} t^2=-16$ $t=\pm\sqrt{-16}$ $t=\pm 4i$
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$\textcircled{10} y^2=-100$ $y=\pm\sqrt{100}$ $y=\pm 10i$	$\textcircled{11} (3k-1)^2=12$ $3k-1=\pm\sqrt{12}$ $3k-1=\pm 2\sqrt{3}$ $3k=1\pm 2\sqrt{3}$ $k=\frac{1\pm 2\sqrt{3}}{3}$	$\textcircled{12} (4t+1)^2=20$ $4t+1=\pm\sqrt{20}$ $4t+1=\pm 2\sqrt{5}$ $4t=-1\pm 2\sqrt{5}$ $t=\frac{-1\pm 2\sqrt{5}}{4}$
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$\textcircled{13} p^2-5p+6=0$ $(p-2)(p-3)=0$ $\begin{array}{l l} p-2=0 & p-3=0 \\ p=2 & p=3 \\ \{2, 3\} & \end{array}$	$\textcircled{14} g^2+2g-8=0$ $(g+4)(g-2)=0$ $\begin{array}{l l} g+4=0 & g-2=0 \\ g=-4 & g=2 \\ \{-4, 2\} & \end{array}$	$\textcircled{15} (5r-3)^2=-3$ $5r-3=\pm\sqrt{-3}$ $5r=3\pm i\sqrt{3}$ $r=\frac{3\pm i\sqrt{3}}{5}$
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$$\textcircled{16} (-2w+5)^2=-8$$

$$-2w+5=\pm\sqrt{-8}$$

$$-2w+5=\pm 2i\sqrt{2}$$

$$-2w=-5\pm 2i\sqrt{2}$$

$$w=\frac{-5\pm 2i\sqrt{2}}{-2}$$

$$w=\frac{5}{2}\pm i\sqrt{2}$$

p 136

$$\textcircled{7} \frac{2x-5}{x}=\frac{x-2}{3}$$

$$3(2x-5)=x(x-2)$$

$$6x-15=x^2-2x$$

$$0=x^2-8x+15$$

$$0=(x-3)(x-5)$$

$$0=x-3 \quad | \quad 0=x-5$$

$$x=3 \quad | \quad x=5$$

$$\{3, 5\} \quad x \neq 0$$

$$\textcircled{8} \frac{x+4}{2x}=\frac{x-1}{3}$$

$$3(x+4)=2x(x-1)$$

$$3x+12=2x^2-2x$$

$$0=2x^2-5x-12$$

$$0=(2x+3)(x-4)$$

$$\begin{array}{l|l} 2x+3=0 & x-4=0 \\ 2x=-3 & x=4 \\ x=-\frac{3}{2} & \end{array}$$

$$\{-\frac{3}{2}, 4\}$$

$$x \neq 0$$

Unit 8 Day 1 Continued

$$9) \left[\frac{2p}{p-2} = 5 + \frac{4p^2}{p-2} \right] p \neq 2$$

$$2p = 5(p-2) + 4p^2$$

$$2p = 5p - 10 + 4p^2$$

$$0 = 4p^2 + 3p - 10$$

$$0 = (4p - 5)(p + 2)$$

$$4p - 5 = 0 \quad | \quad p + 2 = 0$$

$$4p = 5 \quad | \quad p = -2$$

$$p = \frac{5}{4} \quad | \quad \left\{ \frac{5}{4}, -2 \right\} \quad p \neq 2$$

$$10) \left(\frac{-3k}{2} + \frac{9k-5}{3} = \frac{11k+8}{6k} \right) 6k$$

$$-9k^2 + 2k(9k-5) = 11k+8$$

$$-9k^2 + 18k^2 - 10k = 11k+8$$

$$9k^2 - 21k - 8 = 0$$

$$(3k + 1)(3k - 8) = 0$$

$$3k + 1 = 0$$

$$3k = -1$$

$$k = -\frac{1}{3}$$

$$3k = 8$$

$$k = \frac{8}{3}$$

$$\begin{array}{r} 72 \\ 24 \overline{) 3} \end{array}$$

$$k \neq 0$$

$$\left\{ -\frac{1}{3}, \frac{8}{3} \right\}$$